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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,236	12/08/2004	Philippe Vazeille	BDL-472XX	4381

207 7590 01/06/2009
WEINGARTEN, SCHURGIN, GAGNEBIN & LEOVICI LLP
TEN POST OFFICE SQUARE
BOSTON, MA 02109

EXAMINER

NGUYEN, BAO S

ART UNIT	PAPER NUMBER
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4112

MAIL DATE	DELIVERY MODE
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01/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/517,236	Applicant(s) VAZEILLE ET AL.	
	Examiner BAO NGUYEN	Art Unit 4112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/08/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claim 1-6, 8, 9, 11, 15, 18, 20, 24, 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U. S. patent application publication no. 2003/0046324) hereinafter referenced as Suzuki, in view of Jamadagni et al. (U. S. patent application publication no 20020152185), hereinafter referenced as Jamadagni.

Regarding **Claim 1**, Suzuki discloses a method of managing events (*"tasks" with "information obtained from the target to be monitorially controlled", or "information obtained from the network communication system"*, disclosed at page 6, paragraph 0125) in a standard computer system comprising a central unit (*"CPU"*) connected to memory units (*memory for "communication task group", "control task group", and "management task group"*, disclosed at page 1, paragraph 0013) and peripheral devices (*"devices" connected to an "I/O interface"*, disclosed at page 4, paragraph 0078) by a data bus (*"bus"*) allowing a multi-

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master configuration (*"...in accordance with the invention, there is provided a distributed control system, comprising a plurality of any of the above-described controllers. In this case, the controllers are disposed in a distributed manner"*, as disclosed at paragraph 0031 and figure 43). **The method comprising the following steps: receiving events** (*"...information obtained from the target to be monitorially controlled or the network communication system is processed"*, disclosed at page 1, paragraph 0012), **storing the events** (*"...managing the plurality of tasks stored in the memory"*, paragraph 0013), **assigning at least one appropriate action to each received event, and executing that action in response to the received event** (*"...a program including an operating system for controlling the execution of the tasks, wherein the plurality of tasks are managed by being classified into a communication task group for performing communications with a network communication system, and a control task group for monitorially controlling a target to be monitorially controlled"*, paragraph 0012), which method is characterized in that the above-mentioned management steps are carried out in real time (*"...objects of the present invention are to provide a controller capable of guaranteeing both real-time execution of control processing and throughput of network communication processing by one information processing means"*, paragraph 0011) **without access to**

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the central unit by a management unit included in an independent management module connected to the data bus and incorporated into the standard computer system ("*...in accordance with the invention, there is provided a remote monitorial control system, comprising one of the above-described controllers, and an information terminal (Personal computers) connected to the above-described network communication system; and there is provided a distributed control system, comprising a plurality of any of the above-described controllers. In this case, the controllers are disposed in a distributed manner*", as disclosed at paragraph 0030, 0031, and figure 43. Each controller is operated independently, but it can communicate with other controllers or standard computer system via the network control circuit, as disclosed in figure 43. The CPU, the memory, the I/O interface, and the network control circuit are connected via the bus, and the controllers are communicated with one another via LAN, as disclosed in figure 43. However, the controllers can be connected via an external bus in the same manner as the internal bus).

However, Suzuki fails to disclose that the events are time-stamped. However, the examiner maintains that it was well known in the art that there is an event processing system that time-stamp the event, as taught by Jamadagni.

In the similar field of endeavor, Jamadagni disclosed the following: *"...a raw event consists of a time stamp, the event type, event subtype, equipment ID, severity of the event, description, etc."* as disclosed at page 4, paragraph 0064.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by adding the receiving time-stamp for the *"information obtained from the target to be monitorially controlled"* or *"information obtained from the network communication system"* that associated with the task, as taught by Jamadagni. This modification allows Suzuki invention to capture the time the event is received.

Regarding **Claim 2**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. Suzuki also discloses that each event (task) received is stored in a first memory (*"...managing the plurality of tasks stored in the memory by classifying them into a communication task group for performing network communications and a control task group for monitorially controlling the target to be monitorially controlled"*, disclosed at page 1, paragraph 0013) associated with the management unit (controller).

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Regarding **claim 3**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. It is also well known in the art that the times scale for real-time system can be adjusted down to a desired level that enable a system to work efficiently.

Regarding **claim 4**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. However, Suzuki fails to disclose that the independent management module (*the controller*) is isolated from the central unit (*other controllers or personal computers in the network*) by a bridge. However, the examiner maintains that it was well known in the art that there is an event processing system that uses bridges to filter data in a network, as taught by Jamadagni. In the similar field of endeavor, Jamadagni disclosed a bridge in (disclosed in figure 8) that filter incoming data from the rest of the network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by adding a bridge between the Network control Circuit and the LAN, as taught by Jamadagni. This modification allows Suzuki's network to minimize noise by filters data traffic at the network boundary.

Regarding **claim 5**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. Suzuki also discloses that action (task) is read in a table of actions ("task Control Table", disclosed at page 5, paragraph 104; and figure 5) associated with the management unit (controller) and is preprogrammed via the data bus (Suzuki's invention is a programmable controller with task Control Table

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stored in memory. The memory is connected to the Network Control Circuit via a bus. It is inherent that the preprogrammed task control table must be transmitted through the bus).

Regarding **claim 6**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. Suzuki and Jamadagni also discloses that events (*tasks*) received by the management unit (*Controller*) are time-stamped to accuracy of the order of 100 nanoseconds (see claim 3 rejection) and stored in a second memory (*"...managing the plurality of tasks stored in the memory by classifying them into a communication task group for performing network communications and a control task group for monitorially controlling the target to be monitorially controlled"*, disclosed at page 1, paragraph 0013) associated with the management unit ("controller") so that these events may be read via the data bus in order to store and monitor these events (The CPU, the memory, the I/O interface, and the network control circuit are connected via the bus, disclosed at figure 1).

Regarding **claim 8**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. Suzuki also discloses that events received by the management unit come from a unit adjacent the management module (disclosed in figure 43).

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Regarding **claim 9**, Suzuki and Jamadagni discloses everything as in claim 1 rejection. Suzuki also discloses that events received by the management unit come from equipment external to the computer system (disclosed in figure 43).

Regarding **claim 11**, it is rejected for the same reason as claim 4 (using bridges to filter data).

Module **claim 15** is a variation of the method claim 6. Therefore, it is rejected for the same reason.

Claim 18 is rejected for the same reason as claim 3 – 6.

Claim 20 is rejected for the same reason as claim 8.

Claim 21 is rejected for the same reason as claim 9.

Claim 24 is rejected for the same reason as claim 11 and 12.

Module **Claim 25** is a variation of the method claim 15 and 16. Therefore, it is rejected for the same reason.

2. **Claim 7** and **19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U. S. patent application publication no. 2003/0046324) hereinafter referenced as Suzuki, and Jamadagni et al. (U. S. patent application publication no 20020152185), hereinafter referenced as Jamadagni; in view of Collins et al. (U. S. patent application publication no 2003/0197632), hereinafter referenced as Collins.

Regarding claim 7, Suzuki and Jamadagni disclose everything as in claim 1 rejection. However, Suzuki fails to disclose that events received by the management unit are generated by a clock register internal to the management. However, the examiner maintains that it was well known in the art that there is an event processing system that uses clock to generate events, as taught by Collins. In the similar field of endeavor, Collins disclosed a clock control event generated by the event processor (disclosed in figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by adding a clock control event inside the controller, as taught by Collins. This modification allows Suzuki's invention to generate internal invents or signals that are controlled by a clock.

Claim 19 is rejected for the same reason as claim 7.

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3. **Claim 10, 13, 17, 22 - 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U. S. patent application publication no. 2003/0046324) hereinafter referenced as Suzuki, and Jamadagni et al. (U. S. patent application publication no 20020152185), hereinafter referenced as Jamadagni; in view of Rubin et al. (U. S. patent application publication no 2003/0197632), hereinafter referenced as Rubin.

Regarding **claim 10**, Suzuki and Jamadagni disclose everything as in claim 8 rejections. However, Suzuki fails to disclose that events received by the management unit are synchronized to a frequency corresponding to that of a clock internal to the computer system, as taught by Rubin. In the similar field of endeavor, Rubin disclosed an integrated digital controller comprises at least one digital phase locked loop for synchronizing a module selected from the group consisting of the pulse sequence generator (PSG) module and the loop control module to the external event, as disclosed at page 3, paragraph 0033.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by adding a digital phase locked loop inside the controller (I/O interface and Network control circuit), as taught by Rubin. This modification allows Suzuki's invention to efficiently process invent signals coming from the external devices and the network.

Claim 22 and **claim 23** are rejected for the same reason as claim 10.

Regarding **claim 13 & 17**, Suzuki and Jamadagni disclose everything as in claim 1 rejection. However, Suzuki fails to disclose that the memory is the **random-access memory (RAM)**, and the **RAM is the double-port type**. However, the examiner maintains that it was well known in the art that there is an event processing system that uses the double-port RAM, as taught by Rubin. In the similar field of endeavor, Rubin disclosed integrated digital controller comprises the ADC Scanner where the Scanning engine is a memory-based unit that uses an over-sampling method, thus the required signals are stored in a RAM (disclosed at page 5, paragraph 0066) and Preferably, memory is a dual port RAM (disclosed at page 15, paragraph 0182).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by upgrade the memory unit with double-port RAM inside the controller, as taught by Rubin. This modification allows Suzuki's invention to facilitate the task control table update. The double port RAM also allows the memory read and write to be independent from one another (faster memory access).

4. **Claim 12 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U. S. patent application publication no. 2003/0046324) hereinafter referenced as Suzuki, and Jamadagni et al. (U. S. patent application publication no 20020152185), hereinafter referenced as Jamadagni; in view of David R. Cheriton (U. S. patent no 5,893,155), hereinafter referenced as Cheriton.

Regarding **claim 12**, Suzuki and Jamadagni disclose everything as in claim 1 rejection. However, Suzuki fails to disclose that the management unit generates an interrupt if it is not possible to associate an event with an action, as taught by Cheriton.

In the similar field of endeavor, Cheriton disclosed a digital computer memory cache organization for efficient data logging. It comprises a control module that accesses a log translation table and select the log translation entry (disclosed at page 17, line 65-68), When a translation is missing, the system generates an interrupt that is handled by operating system software (disclosed at page 19, line 33 – 35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by adding the interrupt process when the signal does not match any action stored in the memory, as taught by Cheriton. This modification allows Suzuki's invention to identify invalid inputs coming from the network or from other external devices.

Claim 24 is rejected for the same reason as claim 11 and 12.

5. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U. S. patent application publication no. 2003/0046324) hereinafter

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referenced as Suzuki, and Jamadagni et al. (U. S. patent application publication no 20020152185), hereinafter referenced as Jamadagni; in view of Sven et al. (U. S. patent application publication no. 2003/0005099), hereinafter referenced as Sven.

Regarding claim 14, Suzuki and Jamadagni disclose everything as in claim 13 rejections. However, Suzuki fails to disclose that the data bus is a standard bus selected from the group comprising a PCI bus, a VME bus, a compact PCI bus and a USB bus, as taught by Sven.

In the similar field of endeavor, Sven disclosed a control management system that has input devices and processing unit connected to a system bus or a universal serial Bus (USB) (disclosed at page 3, paragraph 0026).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by substituting the “bus” with the USB bus, as taught by Sven. This modification allows Suzuki’s invention to have many peripherals to be connected using a single standardized interface.

6. **Claim 16 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U. S. patent application publication no. 2003/0046324) hereinafter referenced as Suzuki, and Jamadagni et al. (U. S. patent application

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publication no 20020152185), hereinafter referenced as Jamadagni; in view of Sechi et al. (U. S. patent no. 6, 639, 538), hereinafter referenced as Sechi.

Regarding **claim 16**, Suzuki and Jamadagni disclose everything as in claim 13 rejections. However, Suzuki fails to disclose that the first memory and the second memory (*memory for "communication task group", "control task group", and "management task group"*) are of the FIFO type.

However, the examiner maintains that it was well known in the art that there is a system that uses FIFO type memory, as taught by Sechi.

In the similar field of endeavor, Sechi disclosed a monitoring system that has the memory buffer operates in FIFO (first-in, first-out) fashion; that is, digital data samples exit the memory buffer in the order that the digital data samples arrive at the memory buffer (disclosed at page 9, line 66 and 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Suzuki by substituting the memory with the FIFO type memory, as taught by Sechi. This modification allows Suzuki's invention to allow incoming task event) to be executed sequentially, in a pipelined manner.

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Claim 25 are rejected for the same reason as claim 15 and 16

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BAO NGUYEN whose telephone number is (571)270-7240. The examiner can normally be reached on Monday - Friday (8:00 AM - 4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey Harold can be reached on 571-272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BAO NGUYEN/
Examiner, Art Unit 4112

12/18/08

/Jefferey F Harold/
Supervisory Patent Examiner, Art Unit 4112